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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MORRISON, THOMAS A

ART UNIT PAPER NUMBER

3653

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,730

Applicant(s)

IIDA, JOJI

Examiner

Thomas A. Morrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/25/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-9, these claims use inconsistent language to recite the banknotes. It is unclear as to which banknotes (e.g., the recited one or more banknotes, a banknote, banknotes, a discharged banknote, a first banknote, a second banknote, the banknotes) is referred to in the claim limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2 and 7, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brannen in view of Hori. In particular, the combination of Brannen and Hori discloses all of the limitations of claims 1, 2 and 7.

Regarding independent claim 1, Figs. 1-3 of Brannen show a banknote dispensing device (10), comprising:

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a banknote supply storing section (16) for storing one or more banknotes (34);

a feed roller (46) having a peripheral edge disposed adjacent to the banknote supply storing section (16), the peripheral edge of the feed roller (46) for contacting a banknote (34) in the banknote supply storing section (16),

the feed roller (46) discharging banknotes (34) one at a time from the banknote supply storing section (16) at a first predetermined speed; and

a transporting unit (including elements from 52 to 124) for receiving a discharged banknote (34) from the banknote supply storing section (16) and transporting the discharged banknote (34) at a second predetermined speed from the banknote supply storing section (16).

Turning now to independent claim 7, Figs. 1-3 of Brennan show a banknote dispensing device (10), comprising:

a removable safe unit (16), the removable safe unit (16) including a banknote supply storing section (near 42) for retaining a supply of banknotes (34);

a banknote discharge unit (including 46), the banknote discharge unit (including 46) including a feed roller (46) having a peripheral edge disposed adjacent to the banknote supply storing section (near 42), the peripheral edge of the feed roller (46) for contacting a banknote (34) in the banknote supply storing section (near 42), the feed roller (46) being driven by a driving shaft driven by a first motor, the feed roller (46) discharging banknotes (34) one at a time from the

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banknote supply storing section (near 42) at a first predetermined speed. See Figs. 1-3 and column 2, line 41 to column 3, line 6.

a transporting unit (including elements 52 to 124) for receiving a discharged banknote (34) from the banknote supply storing section (near 42) and transporting the discharged banknote (34) at a second predetermined speed from the banknote supply storing section (near 42), at least part of the transport unit (including elements 50 to 124) being driven by a second motor;

an accumulating unit (126, 136) for receiving one or more discharged banknotes (34) from the transporting unit (including elements 50 to 124), the accumulating unit (126, 136) having a package dispensing member (126) for dispensing the accumulated discharged banknotes (34) to a user (column 4, lines 9-19); and

a control unit (66) for controlling the operation of the first motor, the second motor, and the package dispensing member (126) to dispense accumulated discharged banknotes (34) to the user.

With regard to independent claims 1 and 7, Brannen shows that the feed roller (46) is driven by a driving shaft, but does not specifically disclose that the feed roller (46) is driven by a one-way clutch attached to the driving shaft. Also, Brannen does not specifically disclose that the transporting unit transports the banknote at a second speed that is faster than the first speed of the banknotes from the feed roller or that the feed roller discharges a banknote at the first speed while allowing the banknote to be pulled at the second speed.

The Hori patent discloses that it is well known that conventional sheet handling devices have feed rollers and transporting units that are located downstream from the feed rollers and operate at higher speeds than feed rollers. See, e.g., column 1, lines 9-67. Hori also discloses that it is well known to use a one-way clutch on a feed roller (1) arrangement of a sheet handling device to accommodate the difference between the speed of the feed roller (1) and the higher speed of a transporting unit downstream from the feed roller (1), to provide a paper handling device capable of reliably feeding paper. See, e.g., column 1, lines 9-67 and Abstract. It would have been obvious to one of ordinary skill in the art at the time of the invention, to operate the transport unit of Brennan at a predetermined speed that is faster than a predetermined speed of the feed roller of Brennan and to provide the feed roller (46) of Brennan with a one-way clutch to accommodate the speed difference, so as to provide a sheet handling device that is capable of reliably feeding paper, as taught by Hori.

Regarding dependent claim 2, Brannen discloses a sensor (132) for outputting a signal to indicate successful passage of a first banknote (34) through the transporting unit (including elements 50 to 124), wherein after a first banknote (34) arrives at the sensor (132), a second banknote (34) is discharged from the banknote supply storing section (16) at a predetermined time based on the rotating speed of the feed roller (46). The predetermined time will be the time between sheets that are fed while the feed roller (46) is rotating.

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3. Claims 3-5, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brannen in view of Hori, and further in view of Klein et al.

Regarding claim 3, Figs. 1-3 of Brennan show a banknote dispensing device (10), comprising:

a banknote supply storing section (16) for storing one or more banknotes (34);

a feed roller (46) having a peripheral edge disposed adjacent to the banknote supply storing section (16), the peripheral edge of the feed roller (46) for contacting a banknote (34) in the banknote supply storing section (16), the feed roller discharging banknotes (34) one at a time from the banknote supply storing section (16) at a first predetermined speed;

a transporting unit (including elements from 50 to 124) for receiving a discharged banknote (34) from the banknote supply storing section (16) and transporting the discharged banknote (34) at a second predetermined speed from the banknote supply storing section (16);

a first sensor (62) for detecting the presence of a banknote (34) received by the transporting unit (including elements 50 to 124), the first sensor (62) outputting a first signal to indicate the presence of the banknote (34) adjacent to the first sensor (62);

a second sensor (132) for detecting the presence of a banknote (34) as the banknote (34) is emitted by the transporting unit (including element 124), the

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second sensor (132) outputting a second signal to indicate the presence of the banknote (34) adjacent to the second sensor (132); and

a control unit (66) for receiving and processing the first signal and the second signal.

Brannen shows that the feed roller (46) is driven by a driving shaft, but does not specifically disclose that the feed roller (46) is driven by a one-way clutch attached to the driving shaft. Moreover, Brannen does not specifically disclose that the transporting unit transports the banknote at a second speed that is faster than the first speed of the banknotes from the feed roller or that the feed roller discharges a banknote at the first speed while allowing the banknote to be pulled at the second speed. In addition, the Brennan patent does not specifically disclose that the control unit compares the timing of the first signal with the second signal to determine whether a banknote has properly passed through the transporting unit.

The Hori patent discloses that it is well known that conventional sheet handling devices have feed rollers and transporting units that are located downstream from the feed rollers and operate at higher speeds than feed rollers. See, e.g., column 1, lines 9-67. Hori also discloses that it is well known to use a one-way clutch on a feed roller (1) of a sheet handling device to accommodate the difference between the speed of the feed roller (1) and the higher speed of the transporting unit downstream from the feed roller (1), to provide a paper handling device capable of reliably feeding paper. See, e.g., column 1, lines 9-67 and Abstract. It would have been obvious to one of ordinary skill in the art at

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the time of the invention, to operate the transport unit of Brennan at a predetermined speed that is faster than a predetermined speed of the feed roller of Brennan during discharging of banknotes and to provide the feed roller (46) of Brennan with a one-way clutch to accommodate the speed difference, so as to provide a sheet handling device that is capable of reliably feeding paper, as taught by Hori.

The Klein et al. patent discloses that it is well known to use the signals from a plurality of sensors (119) provided along a transport unit of a sheet handling device, to monitor the timing of bills as they are conveyed past the sensors (119) and adjust the conveyance of the bills to correct for slippage of the bills. See Fig. 4 and column 9, lines 46-61. It would have been obvious to one of ordinary skill in the art at the time of the invention, to use the first and second signals of the first and second sensors 62 and 132, respectively, of Brennan to compare the timing of the first signal with the second signal and determine whether a banknote has properly passed through the transport unit, so as to accommodate for any slippage of the banknotes, as taught by Klien et al.

Regarding claim 4, Brennan also discloses that the banknote supply storing section (16) is a cartridge. As such, it is removable from the dispensing device. See column 2, line 3.

Regarding claim 5, Fig. 1 of Brennan shows that the banknote dispensing device (10) has a diverting unit (102, 104) for diverting a banknote (34) from a first path (between 140 and 124) to a second path (106), the first path being the normal banknote discharge path;

a rejected banknote storing section (112), the second path (106) being the rejected banknote storing path; and

a third sensor (116) for detecting the presence of a banknote (34) adjacent the third sensor (116), the third sensor outputting a third signal to indicate successful passage of the received banknote (34) through the transporting unit (including elements 52 to 124) and to the rejected banknote storing section (112).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brennan in view of Hori as applied to claim 7 above, and further in view of Klein et al.

Regarding claim 8, Fig. 1 of Brennan shows that the banknote dispensing device (10) further comprises

a first sensor (62) for detecting the presence of a banknote (34) received by the transporting unit (including elements 52 to 124) from the banknote discharge unit (including 46), the first sensor (62) outputting a first signal to the control unit (66) indicating a predetermined property of the discharged banknote (34) adjacent to the first sensor (62); and

a second sensor (132) for detecting a predetermined property of the banknote (34) as the banknote (34) is passed to the accumulating unit (126,136) of the dispensing device, the second sensor (132) outputting a second signal to the control unit (66) indicating successful passage of the received banknote (34) through the transporting unit (including elements 52 to 124) into the accumulating unit (126,136),

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wherein the control unit (66) receives and processes the first signal and the second signal. The combination of Brennan and Hori does not specifically disclose that the control unit (66) compares the timing of the first signal with the second signal to determine whether each banknote has properly passed through the transporting unit to the accumulating unit.

The Klein et al. patent discloses that it is well known to use the signals from a plurality of sensors (119) provided along a transport unit of a sheet handling device, to monitor the timing of bills as they are conveyed past the sensors (119) and adjust the conveyance of the bills to correct for slippage of the bills. See Fig. 4 and column 9, lines 46-61. It would have been obvious to one of ordinary skill in the art at the time of the invention, to use the first and second signals from the first and second sensors (62 and 132), respectively, of Brennan to compare the timing of the first signal with the second signal and determine whether a banknote has properly passed through the transport unit, and then accommodate for any slippage of the banknotes, as taught by Klien et al.

Allowable Subject Matter

5. Claims 6, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Also, these claims need to be amended to overcome the rejection under 35 U.S.C. 112, second paragraph as set forth above.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,030,722 (Irvine et al.) discloses a sheet handling device with an over-running clutch;

U.S. Patent Nos. 4,577,763 (Placke et al.), 4,564,122 (Granzow et al.), 4,552,350 (Naggy et al.) and 4,179,031 (Ward), each disclose a dispensing device with sensors and a purge bin.

U.S. Patent No. 6,206,284 (Do et al.) and Japanese Publication No. 62-275948 disclose dispensing devices with removable compartments.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is 703-305-0554. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on 703-306-4173. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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